References

[1] Amr A. El-Sherif, and AmrMohamed (2014), ”Joint Routing and Resource Allocation for Delay Minimization in Cognitive Radio Based Mesh Networks”, Ieee Transactions On Wireless Communications, VOL. 13, NO. 1, JANUARY 2014, pp.186-197, Print ISSN: 1530-437X , Electronic ISSN: 1558-1748

[2] AyhanAkbas, HuseyinUgurYildiz, BulentTavli, and Suleyman Uludag, (2015), ”Joint Optimization of Transmission Power Level and Packet Size for WSN Lifetime Maximization” IEEE , Print ISSN: 1530-437X ,Electronic ISSN: 1558-1748

[3] Deepak Sharmaand Amol P Bhondekar (2018),” Traffic and Energy Aware Routing for Heterogeneous Wireless Sensor Networks”, IEEE Communications Letters, Print ISSN: 1089-7798 Electronic ISSN: 1558-2558

[4] Efe F. Orumwense, Thomas J. Afullo, Viranjay M. Srivastava (2016), Energy efficiency Metrics in Cognitive Radio Networks: A Hollistic Overview”, International Journal of Communication Networks and Information Security (IJCNIS).Vol. 8, No. 2, August 2016 ,pp 75-85

[5] Gurbinder Singh Brar ,Shalli Rani , Vinay Chopra , Rahul Malhotra, Houbing Song, Syed Hassan Ahmed,(2016),”Energy Efficient Direction Based PDORP Routing Protocol For WSN”, IEEE Access , Electronic ISSN: 2169-3536

[6] Gyanendra Prasad Joshi and Sung Won Kim (2016), “A Survey on Node Clustering in Cognitive Radio Wireless Sensor Networks”, Sensors 2016doi:10.3390/s16091465 Print ISSN: 2376-5933,Electronic ISSN: 2376-595X.

[7] Haichuan Ding, Chi Zhang, Xuanheng Li,Jianqing Liu, Miao Pan, Yuguang Fang and Shigang Chen,(2018), ”Session-Based Cooperation in Cognitive Radio Networks: A Network-Level Approach”, IEEE/ACM TRANSACTIONS ON NETWORKING , Print ISSN: 1063-6692 Electronic ISSN: 1558-2566

[8] Hangqi Li And Xiaohui Zhao(2018),”Power Allocation for Capacity Maximization in Sensing-Based Cognitive DF Relay Networks With Energy Harvesting”, IEEE Access VOLUME 6, 2018 , pp.48556-48565. Electronic ISSN: 2169-3536

[9] JInping Sui1, Zhen Liu1, Alexander Jung2, Li Liu, And Xiang Li (2016), ”Dynamic Clustering Scheme for Evolving Data Streams Based on Improved STRAP”, IEEE Access Volume 4 2016 , Electronic ISSN: 2169-3536

[10] JianhuaQiao And Xueying Zhang (2018), “Polar Coordinate-Based Energy-Efficient-Chain routing in Wireless Sensor Networks Using random Projection ”,IEEE Access year:2018 Volume 6 , Electronic ISSN: 2169-3536

[11] JIan Shen, AnxiWang, Chen Wang, Patrick C. K. Hung, and Chin-Feng Lai (2015) ,”An Efficient Centroid-based Routing Protocol for Energy Management in WSN-Assisted IoT”, JOURNAL OF LATEX CLASS FILES, VOL. 14, NO. 8, AUGUST 2015, pp1-10, Electronic ISSN: 2169-3536

[12] Jie Guo1, a, Dahai Jing1 and Yan Gu ” Spectrum Sensing with clustering in Cognitive Radio Networks”, Applied Mechanics and Materials Vols 651-653(2014) pp : 1941-1944

[13] Jingyi Dai and Shaowei Wang (2016), “Clustering-Based Spectrum Sharing Strategy for Cognitive Radio Networks” IEEE Journal on Selected Areas in Communications. Print ISSN: 0733-8716 , Electronic ISSN: 1558-0008

[14] JInping Sui1, Zhen Liu1, Alexander Jung2, Li Liu, And Xiang Li (2016), ”Dynamic Clustering Scheme for Evolving Data Streams Based on Improved STRAP”, IEEE Access Volume 4 2016 , Electronic ISSN: 2169-3536

[15] Jin-Young Choi, In-sun Choi,Geon-Ho Ahn, and Dong-Jun Won*, (2015), ”Advanced Power Sharing Method to Improve the Energy Efficiency of Multiple Battery Energy Storages System”, IEEE Transactions on Smart Grid., Print ISSN: 1949-3053, Electronic ISSN: 1949-3061

[16] JOSEPH MITOLA III (2001) “Cognitive Radio for Flexible Mobile Multimedia Communications” Mobile Networks and Applications 6, 435–441, 2001

[17] Joseph Mitola and Gerald Q. Maguire “Cognitive Radio: Making Software Radios More Personal” IEEE Personal Communications • August 1999 pp 13-18

[18] Kobi Cohen, Amir Leshem(2018), “Spectrum and Energy Efficient Multiple Access for Detection in Wireless Sensor Networks”, IEEE Transactions on Signal Processing, 2018.

[19] Kok-Lim Alvin Yaua,n, NordinRamlib, WahidahHashimb, HafizalMohamad "Clustering algorithms for Cognitive Radio networks: A survey" Journal of Network and Computer Applications 45 (2014) pp:79–95

[20] Kumar, Awadhesh Kumar Singh (2017), "A localized algorithm For Clustering in cognitive radio networks",JKSUCI 439 Print ISSN: 1053-587X Electronic ISSN: 1941-0476

[21] Mai Abdelhakim, Yuan Liang Tongtong Li (2015), "Mobile Coordinated Wireless Sensor Network:An Energy Efficient Scheme for Real-Time Transmissions", Mai Abdelhakim,Yuan Liang Tongtong Li,IEEE Journal on Selected Areas in Communications. , Print ISSN: 0733-8716 , Electronic ISSN: 1558-0008

[22] Mingyue Zhou, Xiaohui Zhao (2018), "A Robust Energy Efciency Power Allocation Algorithm in Cognitive Radio Networks",Communications Theories & Systems, China Communications , October 2018, Print ISSN: 1673-5447

[23] Mr.Takale D.G, Prof.Yogesh Kumar Sharma, Prof.Gujar S.N "A Review on Implementing Energy Efficient clustering protocol for Wireless sensor Network" 2019 JETIR January 2019, Volume 6, Issue 1 , (ISSN-2349-5162)

[24] Mustafa OzgerOzgur B. Akan (2013), "Event-driven Spectrum-Aware Clustering in Cognitive Radio Sensor Networks", 2013 Proceedings IEEE INFOCOMpp 1483-1491, Print ISSN: 0743-166X

[25] N. Mansoor ,A.K.M. M. Islam , M. Zareei , S. Baharun (2015),"Cluster Modelling for Cognitive Radio Ad-hoc Networks Using Graph Theory", International Conference of Electrical, Automation and Mechanical Engineering (EAME 2015), pp.805-809.

[26] Nie Nie · Cristina Comaniciu "Adaptive Channel Allocation Spectrum Etiquette for Cognitive Radio Networks" Mobile Networks and Applications (2006) 11: 779–797

[27] R.GaneshBabu, Dr.V.Amudha (2016), "Spectrum Sensing Cluster Techniques In Cognitive Radio Networks",2016 International Conference on Computational Science Procedia Computer Science 87 (2016) pp: 258 – 263,

[28] Ranjeet Singh, AmandeepKaur, Arashpal Singh (2015), "Dynamic Cluster based Cooperation for Fair Spectrum Sensing and Sharing in Cognitive Radio Networks", International Journal of Engineering Research and General Science Volume 3, Issue 1, January-February, 2015 ISSN 2091-2730

[29] Shiny B and Amali C ”Clustering Based Resource allocation For OFDM Based Cognitive Radio Networks” International Journal of Scientific Research Vol. 8,Issue, 6, pp. 17469-17474, June, 2017, Print ISSN: 0733-8716, Electronic ISSN: 1558-0008

[30] Sisi Liu (2008),”Cluster-based Control Channel Allocation in opportunistic Cognitive Radio Networks”, IEEE SECON 2009, Print ISSN: 1536-1233 Electronic ISSN: 1558-0660

[31] Sushmitha Gunalin A1, Rekha(2017), ”Energy EfficientChannel Allocation for Cognitive Radio Networks with IncursionDetection”, International Research Journal of Engineering and Technology (IRJET)Volume: 04 Issue: 05 | May -2017 ISSN:2395-0072, e-ISSN: 2395 -0056 p-ISSN: 2395-0072

[32] Venkatasubramanian Srividhya and Thangavelu Shankar “Energy proficient clustering technique for lifetime enhancement of cognitive radio–based heterogeneous wireless sensor network, “International Journal of Distributed Sensor Networks2018, Vol. 14(3) DOI: 10.1177/1550147718767598

[33] Wenyu Zhang1, Zhenjiang Zhang,Han-Chieh Chao,And Peng Zhang (2017)”, System-Level Energy Balance for Maximizing network Lifetime in WSNs”, IEEE Access Special Section On Intelligent Systems For The Internet Of Things . VOLUME 5, 2017,pp -20046- 20057 , Electronic ISSN: 2169-3536

[34] Xingcheng Liu, Senior Member, IEEE, Wei Li, Feng Han, Yi Xie (2017), ”An Optimization Scheme of Enhanced Adaptive Dynamic Energy Consumption Based on Joint Network-Channel Coding in WSNs”, in IEEE SensorsJournal, Print ISSN: 1530-437X ,Electronic ISSN: 1558-1748 CD-ROM ISSN: 2379-9153

[35] Xueqing Huang, and Nirwan Ansari,(2016), “Resource exchange in Smart Grid Connected Cooperative Cognitive Radio Networks”, IEEE Transactions on Vehicular Technology, Print ISSN: 0018-9545,Electronic ISSN: 1939-9359

[36] ZHANG HuaZi ,ZHANG ZhaoYang& YUEN Chau (2012), ”Energy-efficient spectrum-aware clustering for cognitive radio sensor networks”, Basic Theories in Cognitive Wireless Networks October 2012 Vol.57 No.28-29: 3731 3739, ISSN: 1001-6538, Electronic ISBN: 978-1-4799-8795-5